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| 10/562,554   | 12/28/2005  | Hidekazu Mori        | 4670-0114PUS1       | 8229             |
| 2292 7590 03/12/2010<br>BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/562,554

**Applicant(s)**

MORI ET AL.

**Examiner**

Kevin Parendo

**Art Unit**

2823

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2 and 4-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date 9/30/09

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/28/09 has been entered.

### ***Claim Objections***

2. **Claim 1** is objected to because the word "a" should be inserted before "carboxyl" on lines 3, and the word "the" should be inserted before "carboxyl" on lines 4 and 5, for proper antecedent basis.
3. **Claim 1** is objected to because the phrase "a group consisting of" should be inserted before "polybutadiene" on line 3, in order to make the claim clearer.
4. **Claim 1** is objected to because the line "thereby obtaining..." should not occur in the same "paragraph" as element "2)", because it refers to the "mixing" and not just element "2)".

5. **Claim 1** is objected to because the line "a step of dry-forming..." should begin a new indent because it is another step that is separate from both the mixing and from element "2").
6. **Claim 1** is objected to because the limitation "the combination" on line 10 lacks proper antecedent basis, as no limitation "a combination" occurs before it. Proper correction is required.
7. **Claims 2, 4-10, and 13** are objected to because the limitation "The production method" on line 1 lacks proper antecedent basis and should be amended to "The method" or "The method for producing the electrode for the electric double layer capacitor".
8. **Claim 10** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 recites the limitation "wherein the powdery mixture comprises 80 to 96 parts by weight of the carbonaceous material per 100 parts by weight of the combination of the particulate elastomer and the carbonaceous material." The requirement to be 80 to 96 parts by weight of the carbonaceous material thus requires 4 to 20 parts by weight of the

particulate elastomer, which contradicts claim 1, which requires 2 to 10 parts by weight of the particulate elastomer.

9. **Claim 11** is objected to because the claim lacks proper antecedent basis. It should be amended to "An electrode for an electric double layer capacitor, which is obtained by the method as claimed in claim 1."

10. **Claim 13** is objected to because the limitations "a particulate elastomer" and "a carbonaceous material" lack proper antecedent basis and should include "the" instead of "a". Also, the limitation "in a powdery form" lacks proper antecedent basis, and is confusing, as it is unknown how this is different than the "powdery mixture" of claim 1. It is recommended to delete "in a powdery form", as it does not appear necessary (the "mixing" is the same as that of claim 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The examination guidelines for determining obviousness under 35 U.S.C. 103 are described in MPEP 2141-2145.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 1-2, 4, 7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,246,568 B1 ("Nakao") in view of US 6,800,222 B1 ("Noguchi").

**Re claim 1**, Nakao discloses a method for producing an electrode for an electric double layer capacitor (column 1, line 16), comprising:

- a step of mixing
  - 1) a particulate elastomer selected from polybutadiene modified with carboxyl group, polyisoprene modified with carboxyl group, or styrene/butadiene copolymer modified with carboxyl group ("carboxy denatured styrene butadiene copolymer", column 18, lines 20-28) with
  - 2) a carbonaceous material comprising activated carbon as an active material ("activated carbon", column 18, line 33),
- thereby obtaining a powdery mixture (the particles are dispersed in water in an emulsion, see column 18, lines 20-22 and 29-33; it is later applied, dried, and formed, see column 22, lines 8-11 and column 4, lines 7-16; this falls into the definition of "powdery mixture" and "powdery form" as described in this

application's specification in paragraph 38, and one of ordinary skill in the art at the time of the invention would have realized this as such); and

- a step of dry-forming (column 4, lines 13-15, wherein the dried conductive electrode is wound on a separator) said powdery mixture, thereby forming an electrode layer 3 (column 3, line 28 and Fig. 1),
- wherein the powdery mixture comprises 2 to 10 parts by weight of the particulate elastomer per 100 parts by weight of the combination of the particulate elastomer and the carbonaceous material (column 18, lines 53-59, wherein 1-200 parts by weight of the latex particulate elastomer is included and 100 parts by weight of activated carbon carbonaceous material is included, for 1-200 parts latex out of a total of 101-300 parts total; thus, normalizing to 100 parts total weight, about 0.3 to 66 parts latex out of 100 total parts in disclosed; part of this range falls upon the claimed range of 2 to 10 parts).

While the disclosed range above is larger than the claimed range, Nakao has disclosed, in similar embodiments, values in the claimed range. For instance, 2 parts latex were included in 20 parts of carbonaceous material (10 parts activated carbon, and 10 parts acetylene black, which is an amorphous form of carbon) (see column 23, lines 34 and 37), for 2 parts out of 22 total parts, which is equivalent to 9.1 parts out of 100 total parts.

Regarding the claimed values of "parts by weight": the Applicant has not disclosed that the claimed values are for a particular unobvious purpose, produce an

unexpected result, or are otherwise critical, which are criteria that have been held to be necessary for mere dimensional limitations to be prima facie unobvious. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the claimed values to the invention, because such a value would have been discovered during routine experimentation and optimization. For instance, Nakao discloses the motivation to find the most optimal concentrations due to a desire to optimize the ease of handling (column 18, lines 20-23) and adhesion (column 18, lines 56-59), of which it is disclosed that the concentrations of the various ingredients are important (column 18, lines 20-23 and 56-59). See, for example, MPEP 2144.03, In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). It would have been obvious to one of ordinary skill in the art at the time of invention to supply the claimed weights.

In any case, Noguchi discloses using 82% by weight of activated carbon and 8% by weight of binder (in this case, PTFE) to blend a powdery mixture (column 8, line 66 – column 9, line 13). The applicant's "particulate elastomer" is clearly the same as a "binder", since Nakao discusses PTFE and latex "binders" (column 1, lines 46-47). It would have been obvious to one of ordinary skill in the art at the time of invention to add the "parts by weight" of the binder and of the activated carbon of Noguchi to the invention of Nakao. The motivation to do so is that the combination produces the predictable results of forming a slurry also having 40% by weight of the above blend,



and 60% by weight of NMP solvent (column 9, lines 4-6) that put the weight of the conductive fillers and activated carbons in the appropriate ranges to provide optimized rest potentials to provide optimized electrostatic capacity of the electric double layer capacitor (column 2, lines 27-52).

**Re claim 2**, Nakao further discloses that the particulate elastomer is an elastomer having a crosslinked structure ("polymerized or crosslinked", column 17, line 67 – column 18, line 2).

**Re claim 4**, Nakao further discloses that the carbonaceous material further comprises an electroconductivity additive ("conductive agent", column 18, line 33, such as acetylene black or ketienblack, see column 3, line 48 column 1, line 49, and column 19, line 8).

**Re claim 7**, Nakao further discloses that the said powdery mixture has a particle diameter of 0.1 to 1000 micrometers (column 18, line 35; column 16, lines 22-31).

In any case, Noguchi discloses that the powdery mixture has a particle diameter of 0.1 to 1000 micrometers (activated carbon has a diameter of 5-30 micrometers, see column 8, line 67, and acetylene black conductivity additive has a diameter of 1 nm to 100 micrometers, see column 9, line 2). It would have been obvious to one of ordinary skill in the art at the time of invention to add the invention of Noguchi to the invention of Nakao. The motivation to do so is that the combination produces the predictable results of forming a slurry also having 40% by weight of the above blend, and 60% by weight of NMP solvent (column 9, lines 4-6) that put the weight of the conductive fillers and activated carbons in the appropriate ranges to provide optimized rest potentials to

provide optimized electrostatic capacity of the electric double layer capacitor (column 2, lines 27-52).

Regarding the claimed values of diameter: the Applicant has not disclosed that the claimed values are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, which are criteria that have been held to be necessary for mere dimensional limitations to be *prima facie* unobvious. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the claimed values to the invention, because such a value would have been discovered during routine experimentation and optimization. See, for example, MPEP 2144.03, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

**Re claim 10**, Nakao further discloses that the powdery mixture comprises 80 to 96 parts by weight of the carbonaceous material per 100 parts by weight of the combination of the particulate elastomer and the carbonaceous material (column 18, lines 53-59, wherein 1-200 parts by weight of the latex particulate elastomer is included and 100 parts by weight of activated carbon carbonaceous material is included, for 1-200 parts latex out of a total of 101-300 parts total; this is equivalent to about 0.3 to 66 parts latex out of 100 total parts; part of this range falls upon the claimed range of 4 to 20 parts by weight of the particulate elastomer).

While the disclosed range above is larger than the claimed range, Nakao has disclosed, in similar embodiments, values in the claimed range. For instance, 2 parts

latex were included in 20 parts of carbonaceous material (10 parts activated carbon, and 10 parts acetylene black, which is an amorphous form of carbon) (see column 23, lines 34 and 37), for 2 parts out of 22 total parts, which is equivalent to 9.1 parts out of 100 total parts.

Regarding the claimed values of "parts by weight": the Applicant has not disclosed that the claimed values are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, which are criteria that have been held to be necessary for mere dimensional limitations to be *prima facie* unobvious. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the claimed values to the invention, because such a value would have been discovered during routine experimentation and optimization. For instance, Nakao discloses the motivation to find the most optimal concentrations due to a desire to optimize the ease of handling (column 18, lines 20-23) and adhesion (column 18, lines 56-59), of which it is disclosed that the concentrations of the various ingredients are important (column 18, lines 20-23 and 56-59). See, for example, MPEP 2144.03, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). It would have been obvious to one of ordinary skill in the art at the time of invention to supply the claimed weights.

In any case, Noguchi discloses using 82% by weight of activated carbon and 8% by weight of binder (in this case, PTFE) to blend a powdery mixture (column 8, line 66 –

column 9, line 13). The applicant's "particulate elastomer" is clearly the same as a "binder", since Nakao discusses PTFE and latex "binders" (column 1, lines 46-47). It would have been obvious to one of ordinary skill in the art at the time of invention to add the "parts by weight" of the binder and of the activated carbon of Noguchi to the invention of Nakao. The motivation to do so is that the combination produces the predictable results of forming a slurry also having 40% by weight of the above blend, and 60% by weight of NMP solvent (column 9, lines 4-6) that put the weight of the conductive fillers and activated carbons in the appropriate ranges to provide optimized rest potentials to provide optimized electrostatic capacity of the electric double layer capacitor (column 2, lines 27-52).

**Re claim 11**, Nakao further discloses the electrode for the electric double layer capacitor, which is obtained by a production method as claims claimed in claim 1 (see discussion of claim 1 above).

**Re claim 12**, Nakao further discloses the electric double layer capacitor, comprising the electrode as claimed in claim 11 (see discussion of claim 1 above).

**Re claim 13**, Nakao further discloses that at the time of mixing a particulate elastomer and a carbonaceous material with each other in a powdery form, there is a concentration of solid contents of 50% or more by weight (see column 18, lines 20-33, wherein, it is disclosed that "it is preferred to dilute [latex] in purified water at specified concentration [i.e. a predetermined value in the disclosed range of 30-70%], and add activated carbon and conductive agent"; thus, there is "a concentration of solid

contents" (i.e. solid latex) in purified water of between 30 and 70% at the time of mixing. Part of this range falls upon the claimed range).

In other embodiments, Nakao discloses the use of exactly 50% of solid contents (column 3, lines 44-45 for PTFE; column 10, lines 59-60 and column 20, lines 43-44 for latex).

Regarding the claimed values of weight percentage: the Applicant has not disclosed that the claimed values are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, which are criteria that have been held to be necessary for mere dimensional limitations to be prima facie unobvious. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the claimed values to the invention, because such a value would have been discovered during routine experimentation and optimization. See, for example, MPEP 2144.03, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao and Noguchi, as applied to claim 4, above, and further in view of US 6,258,337 B1 ("Sonobe").

**Re claim 5**, Nakao and Noguchi disclose the limitations of claim 4, as discussed above, but fail to further disclose a step of causing the electroconductivity additive to adhere onto a surface of said active material by mechanochemical treatment.

Sonobe discloses a step of causing the electroconductivity additive to adhere onto the surface of the active material by mechanochemical treatment (kneading, column 7, line 67; this mechanical external force is a compressive or shearing force, as described in the applicant's specification on page 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the kneading of Sonobe to the invention of Nakao and Noguchi. The motivation to do so is that the combination produces the predictable results of adding an electroconductivity increasing additive, and mixing it, thus increasing the conductivity (column 5, line 14) of the mixture.

**Re claim 6,** Nakao and Noguchi disclose the limitations of claim 1, as discussed above, but fail to further disclose that the powdery mixture is a mixture obtained by fluidized bed granulation or fluidized bed multifunction mode granulation.

Sonobe discloses that the powdery mixture is a mixture obtained by fluidized bed granulation or fluidized bed multifunction mode granulation (column 7, line 1-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the fluidized bed granulation of Sonobe to the invention of Nakao and Noguchi. The motivation to do so is that the combination produces the predictable results of pulverizing the carbonaceous material to particles of about 30 micrometers (column 7, line 29).

13. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakao and Noguchi, as applied to claim 1, above, and further in view of US 2001/0051300 A1 ("Moriguchi").

**Re claims 8-9**, Nakao and Noguchi disclose the limitations of claim 1, as discussed above, but fail to further disclose that the dry-forming is press-molding (claim 8), or that the press-molding is performed inside a mold wherein a current collector is set (claim 9).

Moriguchi discloses forming an electrode by using a carbonaceous powder by a dry-forming process, wherein the dry-forming is press-molding (paragraphs 110-111), and that the press-molding is performed inside a mold wherein a current collector is set (paragraphs 110-111). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the mold containing an electrode of Moriguchi to the inventions of Nakao and Noguchi. The motivation to do so is that the combination produces the predictable results of molding the powder to affix it to a metal foil current collector (paragraphs 110-111).

#### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-2 and 4-13 have been considered but are not persuasive.

The applicants have argued that Nakao does not disclose dry-forming (see page 3, paragraphs 1-2). This is unpersuasive. The applicants misrepresent Nakao by stating that "Nakao discloses a method comprising the steps of applying (wet coating)

the electrode solution on both sides of the conductive film, and then drying the coating film". This is not true. See column 4, lines 13-15, wherein the wet solution is applied, then dried, and then the dried conductive electrode is wound on a separator. Winding a dried film is clearly an instance of dry-forming, as one of ordinary skill in the art would recognize. If the applicants desire for their "dry-forming" in claim 1 to include only the "press-molding", "powder molding", "rolling", and "extrusion molding", the claim may be amended to claim these specific processes.

The applicants argue that their declaration is proof of "unexpectedly superior properties over the teachings of Nakao". Since Nakao has disclosed the claimed invention, the claimed invention must be further narrowed to the specifics of any disclosed process that produces the applicants' supposed superior properties. For instance, in the declaration filed 12/28/09, on the "experiment" section of page 1, the tested method involves many specific details not included in claim 1; 170 parts of activated carbon, with specific 8  $\mu\text{m}$  particle diameter and specific 2000  $\text{m}^2/\text{g}$  surface area), stirred in a Henschel mixer, sprayed and added to 20 parts of specific copolymer particles having specific glass temperature and particle diameter, and for a specific 10 minute duration, and 20 parts of acetylene black were added over another 10 minutes, and mixed, and these were applied in a specific process of forming them into a mold, a pressure of 10 MPa was applied while heating to 80 degrees. If some combination of these steps (i.e. the specific particle diameter, the specific mixer, the time durations, the pressure or temperature) is responsible for the superior properties, they should be claimed in claim 1. However, the broad form of claim 1 is taught by Nakao.



The examiner notes that the declaration is not all that persuasive as a comparison. It appears that the applicants attempt to reproduce the invention of Nakao in the "additional example 1" according to the "object" section. However, it is unclear where many of the supposed details attributed to Nakao have support. For instance, Nakao never discloses 285 parts of pure water, 170 parts of active carbon, or a Hobart mixer. Just because this mixture "became clayey, lost fluidity, and became aggregated" and has supposedly worse performance, as supported by the values in Table 1, it is not clear at all that the reproduces Nakao's invention. Also, Nakao has many different embodiments of the invention, with ranges for parts by weight of the various components, so choosing this set may not represent well Nakao at all.

Regarding claims 5-6, applicants argue against Sonobe, since "Sonobe does not disclose that the binder is a particulate elastomer as required by the present claims" (page 4 of remarks). This is an argument against only Sonobe instead of the combination of Nakao, Noguchi, and Sonobe. Nakao already disclosed the particulate elastomer; Sonobe is only relied upon as being obvious to add the specific kneading process to Nakao. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding claim 6, applicants argue that Sonobe does not teach the granulation (page 4 of remarks). However, Sonobe discloses that the powdery mixture is a mixture

obtained by fluidized bed granulation or fluidized bed multifunction mode granulation (column 7, line 1-30, in a process where the carbonaceous material is pulverized to particles of about 30 micrometers, see column 7, line 29, which are interpreted as "grains"). Just because the specific term "granulation" is not used does not mean that grains are not formed.

Regarding claims 8-9, applicants argue against Moriguchi, since "Moriguchi does not disclose activated carbon as an active material" (page 5 of remarks). This is an argument against only Moriguchi instead of the combination of Nakao, Noguchi, and Moriguchi. Nakao already disclosed the activated carbon. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding claim 13, the applicants argue that Nakao does not disclose at least 50% of solid contents (see page 5 of remarks). However, Nakao discloses that at the time of mixing a particulate elastomer and a carbonaceous material with each other in a powdery form, there is a concentration of solid contents of 50% or more by weight (see column 18, lines 20-33, wherein, it is disclosed that "it is preferred to dilute [latex] in purified water at specified concentration [i.e. a predetermined value in the disclosed range of 30-70%], and add activated carbon and conductive agent"; thus, there is "a concentration of solid contents" (i.e. solid latex) in purified water of between 30 and 70% at the time of mixing. Part of this range falls upon the claimed range).

In other embodiments, Nakao discloses the use of exactly 50% of solid contents (column 3, lines 44-45 for PTFE; column 10, lines 59-60 and column 20, lines 43-44 for latex).

Thus, the use of 50% of solid contents is clearly disclosed and known in the prior art.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Parendo, whose can be contacted by phone at (571) 270-5030 or directly by fax at (571) 270-6030. The examiner can normally be reached on Mon.-Thurs. and alternate Fridays from 7 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith, can be reached on (571) 272-1907. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Art Unit: 2823

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin A. Parendo/  
Examiner, Art Unit 2823  
3/10/2010

/Hsien-ming Lee/  
Primary Examiner, Art Unit 2823